

HAWAII, ISLAND OF OAHU
16240500 WAIKAEAKUA STREAM AT HONOLULU

LOCATION.--Lat 21°19'53", long 157°48'08", Hydrologic Unit 20060000, on right bank 5 ft downstream from bridge on Waaloa Way, 500 ft upstream from confluence with Waihi Stream, and 4.2 mi northeast of Honolulu Post Office.

DRAINAGE AREA.--1.06 mi².

PERIOD OF RECORD.--May 1913 to January 1921, August 1925 to current year. Prior to July 1960, published as East Branch Manoa Stream near Honolulu.

REVISED RECORDS.--WSP 1319: 1919(M), 1930-33(M). WSP 1569: Drainage area. WSP 1937: 1949(M), 1960(M).

GAGE.--Water-stage recorder and combination Parshall flume and concrete weir. Datum of gage is 294.50 ft above mean sea level (Honolulu Board of Water Supply benchmark). Prior to May 20, 1914, nonrecording gage at site 200 ft upstream at different datum. May 20, 1914 to January 16, 1921, water-stage recorder at site 30 ft upstream at different datum. August 18, 1925 to March 15, 1928, water-stage recorder at present site at datum 2.99 ft lower. March 16, 1928 to October 18, 1933, water-stage recorder at present site at datum 0.41 ft higher.

REMARKS.--Records computed by C.W. Yeung. Records good. Honolulu Board of Water Supply at times diverts a small amount of ground water from tunnel upstream of station. Occasional small diversions for irrigation upstream of station.

AVERAGE DISCHARGE.--81 years (water years 1914-20, 1926-99), 4.89 ft³/s (3,550 acre-ft/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,090 ft³/s, January 16, 1921, gage height, 10.4 ft, from floodmarks, site and datum then in use, from rating curve extended above 58 ft³/s; minimum, 0.6 ft³/s, June 7, 8, 1926.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 310 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 2	2030	*188	*2.70				

Minimum discharge, 1.9 ft³/s, September 27-30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

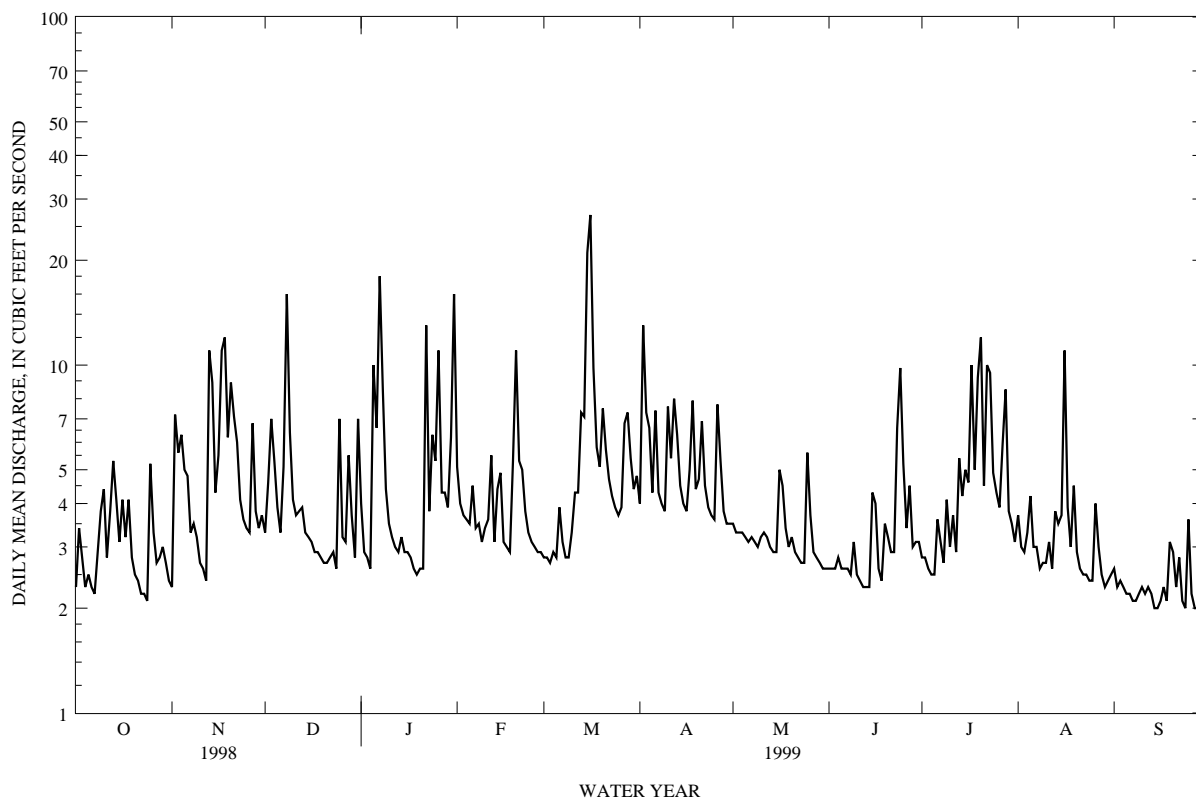
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	2.3	3.3	4.0	5.1	2.8	4.0	3.5	2.6	2.8	3.7	2.6
2	3.4	7.2	4.6	2.9	4.0	2.8	13	3.3	2.6	2.8	3.0	2.3
3	2.8	5.6	7.0	2.8	3.7	2.7	7.3	3.3	2.6	2.6	2.9	2.4
4	2.3	6.3	5.3	2.6	3.6	2.9	6.6	3.3	2.8	2.5	3.3	2.3
5	2.5	5.0	3.9	10	3.5	2.8	4.3	3.2	2.6	2.5	4.2	2.2
6	2.3	4.8	3.3	6.6	4.5	3.9	7.4	3.1	2.6	3.6	3.0	2.2
7	2.2	3.3	5.1	18	3.4	3.1	4.3	3.2	2.6	3.1	3.0	2.1
8	2.9	3.5	16	8.5	3.5	2.8	4.0	3.1	2.5	2.7	2.6	2.1
9	3.8	3.2	6.4	4.4	3.1	2.8	3.8	3.0	3.1	4.1	2.7	2.2
10	4.4	2.7	4.1	3.5	3.4	3.3	7.6	3.2	2.5	3.0	2.7	2.3
11	2.8	2.6	3.7	3.2	3.6	4.3	5.4	3.3	2.4	3.7	3.1	2.2
12	3.8	2.4	3.8	3.0	5.5	4.3	8.0	3.2	2.3	2.9	2.6	2.3
13	5.3	11	3.9	2.9	3.1	7.3	6.3	3.0	2.3	5.4	3.8	2.2
14	4.1	8.9	3.3	3.2	4.4	7.1	4.5	2.9	2.3	4.2	3.5	2.0
15	3.1	4.3	3.2	2.9	4.9	21	4.0	2.9	4.3	5.0	3.7	2.0
16	4.1	5.5	3.1	2.9	3.1	27	3.8	5.0	4.0	4.6	11	2.1
17	3.2	11	2.9	2.8	3.0	9.8	5.0	4.5	2.6	10	3.9	2.3
18	4.1	12	2.9	2.6	2.9	5.8	7.9	3.4	2.4	5.0	3.0	2.1
19	2.8	6.2	2.8	2.5	5.3	5.1	4.4	3.0	3.5	9.2	4.5	3.1
20	2.5	8.9	2.7	2.6	11	7.5	4.7	3.2	3.2	12	2.9	2.9
21	2.4	7.1	2.7	2.6	5.3	5.7	6.9	2.9	2.9	4.5	2.6	2.3
22	2.2	6.0	2.8	13	5.0	4.7	4.5	2.8	2.9	10	2.5	2.8
23	2.2	4.1	2.9	3.8	3.8	4.2	3.9	2.7	6.6	9.5	2.5	2.1
24	2.1	3.6	2.6	6.3	3.3	3.9	3.7	2.7	9.8	4.9	2.4	2.0
25	5.2	3.4	7.0	5.3	3.1	3.7	3.6	5.6	5.2	4.3	2.4	3.6
26	3.3	3.3	3.2	11	3.0	3.9	7.7	3.7	3.4	3.9	4.0	2.2
27	2.7	6.8	3.1	4.3	2.9	6.8	5.3	2.9	4.5	5.9	3.0	2.0
28	2.8	3.8	5.5	4.3	2.9	7.3	3.8	2.8	3.0	8.5	2.5	2.0
29	3.0	3.4	3.7	3.9	---	5.4	3.5	2.7	3.1	3.8	2.3	1.9
30	2.7	3.7	2.8	6.2	---	4.4	3.5	2.6	3.1	3.5	2.4	1.9
31	2.4	---	7.0	16	---	4.8	---	2.6	---	3.1	2.5	---
TOTAL	95.7	161.9	134.6	168.6	113.9	183.9	162.7	100.6	100.3	153.6	102.2	68.7
MEAN	3.09	5.40	4.34	5.44	4.07	5.93	5.42	3.25	3.34	4.95	3.30	2.29
MAX	5.3	12	16	18	11	27	13	5.6	9.8	12	11	3.6
MIN	2.1	2.3	2.6	2.5	2.9	2.7	3.5	2.6	2.3	2.5	2.3	1.9
AC-FT	190	321	267	334	226	365	323	200	199	305	203	136

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1999, BY WATER YEAR (WY)

	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
MEAN	4.19	5.26	5.33	4.90	4.47	5.43	5.68	5.15	4.19	4.96	4.83	4.16
MAX	10.7	18.1	15.5	14.8	15.6	19.5	17.5	13.3	10.3	12.3	13.6	13.3
(WY)	1915	1928	1988	1988	1955	1942	1989	1988	1938	1958	1958	1914
MIN	1.18	1.17	1.42	1.28	1.03	1.14	1.16	.87	1.27	.87	1.31	1.27
(WY)	1946	1934	1920	1977	1920	1926	1926	1926	1920	1926	1984	1984

HAWAII, ISLAND OF OAHU
16240500 WAIAKEAKUA STREAM AT HONOLULU--Continued

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1913 - 1999	
ANNUAL TOTAL	1369.0		1546.7		4.89	
ANNUAL MEAN	3.75		4.24		8.23	
HIGHEST ANNUAL MEAN					1.94	
LOWEST ANNUAL MEAN					1988	
HIGHEST DAILY MEAN	23	Jan 1	27	Mar 16	183	Mar 24 1994
LOWEST DAILY MEAN	1.9	Mar 20	1.9	Sep 29	.62	Feb 26 1920
ANNUAL SEVEN-DAY MINIMUM	2.0	Mar 16	2.1	Sep 12	.75	May 23 1926
ANNUAL RUNOFF (AC-FT)	2720		3070		3550	
10 PERCENT EXCEEDS	6.1		7.1		8.0	
50 PERCENT EXCEEDS	2.9		3.3		3.5	
90 PERCENT EXCEEDS	2.2		2.4		1.8	



HAWAII, ISLAND OF OAHU
16240500 WAIAKEAKUA STREAM AT HONOLULU--Continued
WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1970-86, 1999.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION) (00301)	OXYGEN, DIS-SOLVED (MG/L) (00300)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE WATER (DEG C) (00010)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS-SOLVED (MG/L AS MG) (00925)	POTAS- SIUM, DIS-SOLVED (MG/L AS K) (00935)
JUN 17...	1010	2.5	101	8.9	129	21.0	7.5	5.9	.6
AUG 24...	0940	2.4	97	8.5	135	21.5	7.6	6.2	.7

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)
JUN 17...	11	45	55	12	<.1	21	1.9	<.02	<.1
AUG 24...	10	44	54	13	<.1	22	1.6	<.02	E.05

DATE	NITRO-GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00665)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
JUN 17...	.1	<.05	<.01	.014	.02	.025	97	13	4
AUG 24...	.1	.05	<.01	.012	.01	.029	89	10	6

DATE	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)	SEDIMENT, SUS-PENDED (MG/L) (80154)	PH WATER FILTERED FIELD (STAND-ARD UNITS) (99900)
JUN 17...	.7	.5	6	8.2
AUG 24...	.6	.7	8	8.0

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL) (01106)	ANTI-MONY, DIS-SOLVED (UG/L AS SB) (01095)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)
AUG 24...	8	<1	<1	1	<1	<1	<1.0	<1

E Estimated

HAWAII, ISLAND OF OAHU
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WATER-QUALITY RECORDS

		COPPER, DIS- SOLVED (UG/L AS CU) (01040)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)		
AUG 24...		<1	<1	<1	<1	<1	<1	<1	<1		
		2,6-DI- ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)	ALPHA BHC DISS, SOLVED (UG/L) (34253)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	BEN- FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)	
AUG 24...		<.003	<.002	<.002	<.002	<.001	<.002	<.002	<.003	<.004	
		CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)
AUG 24...		<.004	<.002	<.002	<.002	<.001	<.017	<.002	<.004	<.003	
		LINDANE DIS- SOLVED (UG/L) (39341)	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA- THION, DIS- SOLVED (UG/L) (39532)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	P,P' DDE DISSOLV (UG/L) (34653)
AUG 24...		<.004	<.002	<.005	<.001	<.006	<.002	<.004	<.004	<.006	
		PARA- THION, DIS- SOLVED (UG/L) (39542)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PEB- ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)		
AUG 24...		<.004	<.004	<.004	<.005	<.002	<.018	<.003	<.007		
		PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)		
AUG 24...		<.004	<.013	<.005	<.010	<.007	<.013	<.002	<.002		